

INVENTOR: McBride et al  
TITLE: MEDICAL TESTING AND METHOD

attorney docket: CARDIOBEAT-I

**EXHIBIT 7**

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Re: Quotation # 000107-1

Bob:

Considering the very short time frame and limited resources available, I believe the following is the best approach for this step in the Impedance Measurement development:

1. Reduce the size and cost by eliminating functions not needed in the present concept. Keep the basic approach the same -- analog signal processing followed by the A/D and serial transmission to the PC.
2. Redesign the necessary portions to eliminate those problems which you have identified in the present prototypes.
3. Make other cost and size reduction changes where they can be identified as "low risk", i.e. those that we can be reasonably sure will not add a lot of delay to the program.

We should be able to produce something approximating the size of the enclosure which I showed you during our meeting Thursday. Although I can't cost everything out until the design is done, we should be able to build it in 100 pc. quantities for something in the neighborhood of \$50 -- \$75 each.

Early in the redesign phase we should also look at some other potential cost savings. For example, the filters we are currently using account for \$13 of material costs (100 pc. quantities). How much filtering do we really need? The requirement should be less if we have no connection to the power line system. Also, we can use a microcontroller with a built in A/D converter thereby cutting the cost of the two separate devices approximately in half. There are other potential savings that would not add much development time. If we can quickly evaluate the potential savings vs. risk, we should do so.

Following is my proposed development plan. There will necessarily be some overlap in the steps as proposed. This is a very aggressive development schedule. However, it is achievable. I am assuming I will not be responsible for any PC software development.

Because of the developmental nature of the project, I have quoted "not to exceed" costs. The actual costs may be somewhat less, but not more than the amounts below unless the scope of the development changes by mutual agreement. Engineering time is billed at \$110/hr. Technician/PCB Layout time is billed at \$60/hr. Materials and other expenses are billed at cost + 20%.

Phase 1.

Redesign of known problem areas. Evaluation of potential cost/size saving circuit redesign. Prototyping and test of new circuits.

Time -- 2 weeks

Maximum Cost -- \$ 11,500

Phase 2.

Finalize circuit design and schematic. Firmware redesign. Mechanical design.

Time -- 1 to 2 weeks

Maximum Cost -- \$ 9,500

Phase 3.

PCB design and layout. Fabricate prototype PCB. Purchase components. Build and Test Prototype.

Time -- 2 weeks

Maximum Cost -- \$ 5,600

Total

Time -- 5 to 6 weeks

Maximum Cost -- \$ 26,600

Terms - \$ 8,500 with order

\$ 8,500 at completion of Phase 1

\$ 8,500 at completion of Phase 2

Balance of Costs at Completion of Phase 3.

By

Warren L. Williamson